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File Code: 3420
Route to: Linda Zaleon

Date: May 1, 1996

Subject: Hazard Tree Evaluation at Truckee Work Center (Report #96-10)

To: Truckee District Ranger

On April 30, 1996 Linda Zaleon and I examined the trees at the Truckee Work Center to identify hazard trees. Eight hazard trees were identified near structures. In addition, a clump of older dead white fir was examined. See the attached "Hazard Tree Inspection Forms" for maps numbering and locating these trees.

We first examined the trees on the southwest side of mobile home #1. The jeffrey pine (tree#1) nearest the home is about 24" dbh and stands about 100' tall. It has a definite lean over the home and most of the branches are on the side facing the home. This tree, as well as the adjacent lodgepole pine (tree#2) have old basal scars which show signs of rot. I drew increment cores from low on the trunk of tree#1 and found no rot. However, there could be rot lower in the tree and/or in the roots. Tree#1 leans over an occupied mobile home. Moreover, I was told by Amy (who lives there) that the tree leans over her daughters' bedroom. If tree#1 failed anywhere from the ground line (most likely) to 30' up the bole, I have little doubt that the falling stem would crush the mobile home to the floor, at the point of impact. Based on this information, and the fact that this area is subject to very high winds, I recommend removing tree#1 as soon as possible.

When tree#1 is removed, the adjacent lodgepole pine (tree#2) must also be removed. It also leans toward the mobile home, has a basal scar with rot, and is at risk to fail. In removing tree#1 (which now shelters tree#2 from the wind and shields the mobile home from tree#2 should it fail), tree#2 becomes a hazard tree.

A note about wind damage to trees is necessary here. I read Larry Ford's March 7, 1996 memo which discusses two high velocity wind storms which occurred last winter. The statement is made that these storms "would likely have blown over any weak trees". This is true. However, it is essential to understand that severe wind storms can cause compression damage to the wood in living trees, which greatly weakens boles and branches. Failure can occur when subsequent wind, even wind of much lesser force, stresses the tree or branch from the side where the compression damage exists. For this reason, it is wrong to assume that a tree is safe, because it didn't fail in the last big wind storm. It could very well, be of greater risk.

Linda and I also examined several other trees around the same mobile home. One larger lodgepole pine (tree#3) with a forked top, located about 35 feet south of the home, should also be removed. Tree#3 has a large scar on the northwest



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side of the bole. No rot could be found from two increment corings. The biggest concern is with the forks. If the fork facing the home failed, it would likely fall on the picnic table or the back porch. It appears that a third fork about 20 feet below the upper forks broke off several years ago. The point of breakage is now weak and could be the spot where the tree will fail in the future. The forks are large and could do considerable damage, should they fall. Also, the residents have two small children, who probably play under this tree and who could be at risk.

Trees #4 and #5 located on the northeast side of Home 1 were also examined. Tree#4 has a significant lean toward the mobile home, and tree#5 has a sparse crown. The roots on the side away from the lean are being compacted under driveway. This compaction could significantly weaken the roots which are supporting tree#4. Since the trees appear to be growing from a joined stump, and since tree#5 may not be windfirm when tree #4 is removed, I recommend removing both these trees.

Moving to Home 2, I noted a jeffrey pine (tree#6) just off the south corner of the home which has a crook at the point where a branch broke from the tree a long time ago. This tree also has wires from two old electrical insulators growing inside the tree. Both these conditions can weaken the tree. It appears that if tree#6 failed, it would fall toward Home 2. I recommend removing tree#6.

Tree#7 is a tall, small dbh lodgepole pine with a lean toward Home 3. Tree#7 is tall enough to hit the home, should it fail. The likelihood of this tree failing is very small. However, removing this tree will thin and maybe strengthen the small clump of lodgepole pine just southwest of Home 2. Because of the lean and the sivicultural benefits of removing tree#7, I recommend removing this tree.

Bill Aaron showed us a clump (#8 on the map) of older dead white fir that are starting to fail. The clump appears to have been killed a few years ago by fir engraver beetles. The clump is located several hundred feet west of Home 4. The concern he has is that there are a lot of children living in the compound who may be at risk if they decide to play on the trees that are already on the ground. Also there is a mountain bike trail that runs near this clump of dead white fir. The standing snags should be felled to remove the hazard.

There is a forked pine (tree#11 on Map #2) that is dying. Tree#11 is located on the edge of a cut bank in the southwest corner of the warehouse area. A small guy wire is anchored to tree#11. Approximately half its roots were severed when the parking lot was constructed. The tree could damage one of the nearby military storage units, should it fail. And, people working in the area could be injured. I recommend removing this tree.

About 50 feet west of the warehouse (see Map #2) are three or more jeffrey pine that are dead or dying as a result of a jeffrey pine bark beetle infestation. These trees (tree#12-#14) were probably under stress from overstocking prior to the barkbeetle outbreak. Removing these trees within the next month might also remove the bark beetle larvae brooding under the bark thereby reducing the threat of future attacks on nearby jeffrey pine.

DISCUSSION

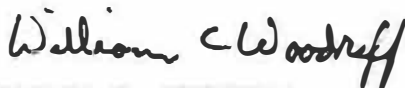
I have recommended removing a number of trees, which I think are hazardous. When a tree has a defect and it threatens human life, I see no reason for keeping it. We can always plant new trees. No one can bring a person back to life. I recommend removing any tree that poses a hazard to people living in and around homes. I do not assign risk percentages to trees because I think, once a potential hazard tree is identified, and human life is at stake, no risk is acceptable. Risk percentages seem out of place when dealing with lives. If a risk exists, and we have the power to remove the hazard, we should do so, without further analysis.

Much of the forest in and around the Truckee Work Center is overstocked and the trees are stressed. This is evident in current and past mortality from bark beetle outbreaks. I recommend thinning the forest in and around the Work Center to remove defective trees and release the rest so that they are more resilient to disturbance. In addition to creating vigorous trees, a very wide spacing of large mature trees could eventually be developed. This would provide a good firebreak around the compound. My vision for the site, in 100 to 200 years would be large, yellow barked pine at a safe distance from the residences and with a few sappling and pole-sized trees closer to the buildings and in small openings dispersed throughout the stand. Such a long-range vision can best be accomplished by developing a vegetation management plan for the Truckee Work Center and surrounding area. Through this plan, I would attempt to recreate the "pre-European settlement condition" of widely spaced mature trees which are underburned at historic intervals to maintain the desired level of fuel and vegetation. Of course, some overmature trees would be harvested and a few young trees would grow in the openings to create a mosaic of sizes, weighted heaviest to the larger trees.

CONCLUSION

The mobile home residence area of the Truckee Work Center contains a few hazardous trees that, in my opinion, need to be removed. These trees could remain standing for many years or they could fail in the next severe storm. There is no way of predicting this, with certainty. The trees I identified have defects, which make them susceptible to failure sooner than later. The fact that human life is at risk, heightens the need to remove these trees, now.

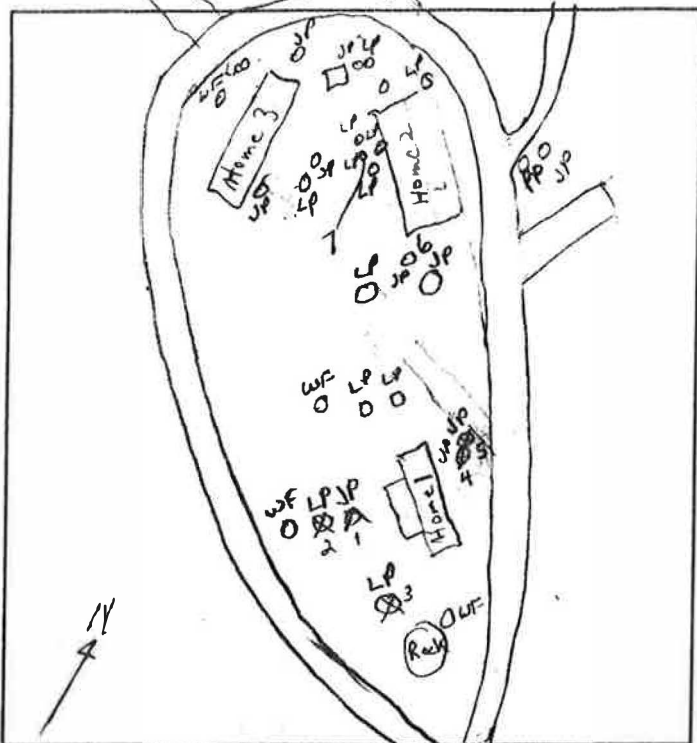
Some past and present insect mortality is present; an indication of overstocking. In the long run, the forest in which the Work Center is situated needs to be managed with the objectives of creating safe resilient trees and a stand structure that protects the compound from catastrophic fire.



WILLIAM C. WOODRUFF
Plant Pathologist

Enclosures

HAZARD TREE INSPECTION FORM



Map required only for campsites, picnic areas and near buildings in drive-in campgrounds.

Campground or Unit

Truckee Work Center

Campsite or Subunit

Inspectors

Bill Woodruff

Linda Zaleson

Date

4/30/96

Remarks

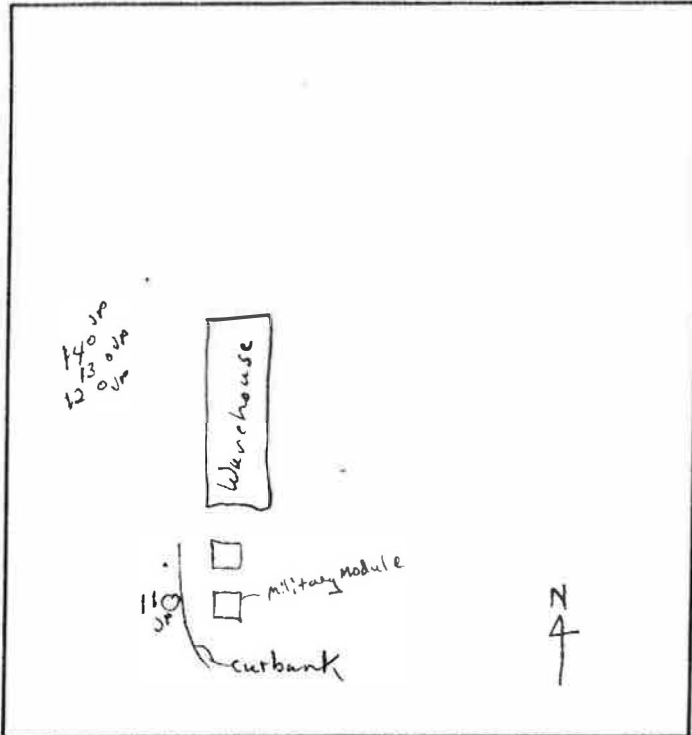
Map # 1 of 2

| Tree location or map number | Tree species | Defect(s) | Hazard potential H or M | Remarks | Recommended action | Action taken/date |
|-----------------------------|--------------|----------------------------------|-------------------------|-----------------------------------|--------------------|-------------------|
| 1 | JP | Lean, crotch heavy branches, rot | H | 2 bores but could be lower | Remove | |
| 2 | LP | crotch, rot | H | will lose protection when it goes | Remove | |
| 3 | JP | Fork top + old broken fork | H | Large old scar | Remove | |
| 4 | JP | Lean to Home 1 | H | Roots compacted at top of lean | Remove | |
| 5 | JP | Shredded sharp compacted roots | M | lose windfall when 3 goes | Remove | |
| 6 | JP | Crack at old broken branches | H | Fractured | Remove | |
| 7 | LP | Lean toward Home 3 | M-L | Tall, small dbh | Remove | |
| 8 | WF Clump | Older Dead Brown Rot | M | Kids could play under | Fall | |
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Local Manager

Date

HAZARD TREE INSPECTION FORM



Map required only for campsites, picnic-areas and near buildings in drive-in campgrounds.

Campground or Unit

Truckee Work Center

Campsite or Subunit

Inspectors

Bill Woodruff
Linda Zalkon

Date

4/30/96

Remarks

Map # 2 of 2

| Tree location or map number | Tree species | Defect(s) | Hazard potential H or M | Remarks | Recommended action | Action taken/date |
|-----------------------------|--------------|------------------------|-------------------------|---------|-------------------------------|-------------------|
| 11 | JP | Roots cut Forked Dying | M | | Remove | |
| 12, 13, 14 | JP | JP Bark beetle | M | Dying | Remove ASAP to capture beetle | |
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Local Manager _____

Date _____